

REMARKS

The Office Action mailed April 8, 2003, has been reviewed and the comments of the Patent and Trademark Office have been considered. No claims have been amended. Claims 1-16 are pending for consideration.

Allowable subject matter

Applicant appreciates the indication that claims 3, 4, 6, 7, 11, 12, 14 and 15 contain allowable subject matter. Applicant has not amended claims 3, 4, 6, 7, 11, 12, 14 and 15 at this time, however, because for the reasons given below, applicant believes that independent claims 1 and 9, from which claims 3, 4, 6, 7, 11, 12, 14 and 15 ultimately depend, are allowable.

Rejection under 35 U.S.C. § 102

Claims 1, 2, 5, 8-10, 13 and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,453,125 to Krogh (hereafter "Krogh"). Applicant respectfully traverses this rejection for at least the following reasons.

Claim 1

Independent claim 1 is directed to a wafer heat-treatment system. This system comprises walls surrounding a closed space enclosing a wafer and having a hollow sealing a gas in the walls. Thus, the walls have a hollow, or cavity, within the walls and a gas is sealed in the cavity of the walls. The system also comprises a pressure-regulating unit connecting to the hollow for regulating pressure in the hollow. Krogh fails to disclose or suggest a pressure regulating unit for regulating the pressure in the hollow of the walls of a wafer heat-treatment system.

Krogh discloses in Fig. 1 a plasma chamber 1 having a cylindrical sidewall 9 which is hollow to accommodate cooling liquid constantly flowing through chamber cooling mean 5 and magnet cooling means 6 (col. 5, lines 33-36). The plasma chamber 1 also includes entrance 7 and exit 8 ports for a gas or gas mixture (col. 5, lines 31-32). A plasma source of

the plasma chamber is operated by introduction of a gas through the entrance port 7, and exit flow through port 8 is adjusted so as to keep the total pressure reduced (preferably below about 1 torr) to limit collisional scattering of electrons in the plasma (col. 6, lines 9-14).

Krogh, however, fails to disclose that the pressure of the cooling liquid within the walls 9 of the plasma chamber 1 is controlled by a pressure regulator. While the Krogh system does cause the cooling liquid to flow within the walls of the plasma chamber 1, Krogh does not disclose that the pressure of the cooling liquid need be controlled within the walls. Applicant notes that the entrance port 7 and exit port 8 are for supplying and removing gas to the interior of the plasma chamber 1, not for supplying the cooling liquid to the hollows of the sidewall 9. The disclosure in Krogh of keeping the pressure reduced by adjusting the gas flow through port 8, is not a disclosure of regulating the pressure of the cooling liquid in the hollows of sidewall 9. Moreover, claim 1 requires a hollow sealing a gas in the walls, while Krogh discloses the hollows in sidewall 9 to contain a cooling liquid. Thus, Krogh fails to disclose the recited features of claim 1 of a pressure-regulating unit connecting to the hollow for regulating pressure in the hollow, or a hollow sealing a gas in the walls.

Claim 9

Independent claim 9 is directed to a wafer heat treatment method and comprises processing a wafer, which is in a closed space surrounded by walls each having a hollow, and regulating the pressure in the hollows of the walls. As discussed above, Krogh fails to disclose that the pressure of the cooling liquid within the walls of the plasma chamber 1 is regulated. Thus, Krogh fails to disclose a recited feature of claim 9.

Accordingly, for at least the reasons given above, applicant respectfully submits that claims 1 and 9, and claims 2, 5, 8, 10, 13 and 16, which ultimately depend therefrom, are patentable over Krogh. Accordingly, applicant respectfully requests that the rejection of these claims under 35 U.S.C. § 102 be withdrawn.

CONCLUSION

In view of the foregoing remarks, applicant respectfully submits that all of the pending claims are now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, the Examiner is invited to contact the undersigned at the number below.

Respectfully submitted,

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